

5' GCG TGG GAT ACC CGT ACC ACA GAA ATG CAG GGA CCA TTG CTT CTT CCA GGC CTC 54  
 9 27 36 45  
 M Q G P L L L P G L

63 72 81 90 99 108  
 TGC TTT CTG AGC CTC TTT GGA GCT GTG ACT CAG AAA ACC AAA ACT TCC TGT  
 C F L L S L F F G A V T Q K T T S C

117 126 135 144 153 162  
 GCT AAG TGC CCC CCA AAT GCT TCC TGT GTC AAT AAC ACT CAC TGC ACC TGC AAC  
 A K C P P N A S C V N N T H C T C N

171 180 189 198 207 216  
 CAT GGA TAT ACT TCT GGA TCT GGG CAG AAA CTA TTC ACA TTC CCC TTG GAG ACA  
 H G Y T S G S G Q K L F T F P L E T

225 234 243 252 261 270  
 TGT AAC GAC ATT AAT GAA TGT ACA CCC TAT AGT GTA TAT TGT GGA TTT AAC  
 C N D I N E C T P P Y S V Y C G F N

279 288 297 306 315 324  
 GCT GTA TGT TAC AAT GTC GAA GGA AGT TTC TAC TGT CAA TGT GTC CCA GGA TAT  
 A V C Y N V E G S S F Y C Q C V P G Y

333 342 351 360 369 378  
 AGA CTG CAT TCT GGG AAT GAA CAA TTC AGT AAT TCC AAT GAG AAC ACC TGT CAG  
 R L H S G N E Q F S N S N E N T C Q

FIGURE 1A

387	GAC ACC ACC	396	TCC TCA AAG ACA ACC CAG GGC AGG AAA GAG CTG CAA AAG ATT GTG	405	414	423	432
	D T S S K S		T T K T Q G R K E L Q K I V				
441	GAC AAA TTT	450	GAG TCA CTT CTC ACC AAT CAG ACT TTA TGG AGA ACA GAA GGG AGA	459	468	477	486
	D K F E S L L L		S L L L T N Q T L W R T E G R				
495	CAA GAA ATC	504	TCA TCC ACA GCT ACC ACT ATT CTC CGG GAT GTG GAA TCG AAA GTT	513	522	531	540
	Q E I S S T A T A T I L R D V E S K V						
549	CTA GAA ACT	558	GCC TTG AAA GAT CCA GAA CAA AAA GTC CTG AAA ATC CAA AAC GAT	567	576	585	594
	L E T A L K L K D P E Q K V L K I Q N D						
603	AGT GTA GCT	612	ATT GAA ACT CAA GCG ATT ACA GAC AAT TGC TCT GAA GAA AGA AAG	621	630	639	648
	S V A I E T Q A I T D N C S E R K						
657	ACA TTC AAC	666	TTG AAC GTC CAA ATG AAC TCA ATG GAC ATC CGT TGC AGT GAC ATC	675	684	693	702
	T F N L N V Q M N S M D I R C S D I						
711	ATC CAG GGA	720	GAC ACA GGT CCC AGT GTC ATT GCC TTTT ATC TCA TAT TCT TCT	729	738	747	756
	I Q G D T Q Q G P S V I A F I S Y S S						

FIGURE 1B

765	774	783	792	801	810
CTT GGA AAC ATC ATA AAT GCA ACT TTT TTT GAA GAG ATG GAT AAG AAA GAT CAA					
L G N I I N A T F F E E M D K K D Q					
819	828	837	846	855	864
GTG TAT CTG AAC TCT CAG GTT GTG AGT GCT GCT ATT GGA CCC AAA AGG AAC GTG					
V Y L N S Q Q V V S A A I G P K R N V					
873	882	891	900	909	918
TCT CTC TCC AAG TCT GTG ACG CTG ACT TTC CAG CAC GTG AAG ATG ACC CCC AGT					
S L S K S V T L T F Q H V K M T P S					
927	936	945	954	963	972
ACC AAA AAG GTC TTC TGT GTC TAC TGG AAG AGC ACA GGG CAG GGC AGC CAG TGG					
T K K V F C V Y W K S T G Q G S Q W					
981	990	999	1008	1017	1026
TCC AGG GAT GGC TGC TTC CTG ATA CAC GTG AAC AAG AGT CAC ACC ATG TGT AAT					
S R D G C F L I H V N K S H T M C N					
1035	1044	1053	1062	1071	1080
TGC AGT CAC CTG TCC AGC TTC GCT GTC CTG ATG GCC CTG ACC AGC CAG GAG GAG					
C S H L S S S F A V L M A L T S Q E E					
1089	1098	1107	1116	1125	1134
GAT CCC GTG CTG ACT GTC ATC ACC TAC GTG GGG CTG AGC GTC TCT CTG CTG TGC					
D P V L T V I T Y V G L S V S L L C					

FIGURE 1C

1143	1152	1161	1170	1179	1188
CTC CTC CTG GCG GCC CTC ACT TTT CTC CTG TGT AAA GCC ATC CAG AAC ACC AGC					
L L L A A L T F L L C K A I Q N T S					
1197	1206	1215	1224	1233	1242
ACC TCA CTG CAT CTG CAG CTC TCG CTC TGC CTC TTC CTG GCC CAC CTC CTC TTC					
T S L H L Q L S L C L F L A H L L F					
1251	1260	1269	1278	1287	1296
CTC GTG GGG ATT GAT CGA ACT GAA CCC AAG GTG CTG TGC TCC ATC ATC GCC GGT					
L V G I D R T E P K V L C S I I A G					
1305	1314	1323	1332	1341	1350
GCT TTG CAC TAT CTC TAC CTG GCC GCC TTC ACC TGG ATG CTG CTG GAG GGT GTG					
A L H Y L Y L A A F T W M L L E G V					
1359	1368	1377	1386	1395	1404
CAC CTC TTC CTC ACT GCA CGG AAC CTG ACA GTG GTC AAC TAC TCA AGC ATC AAT					
H L F L T A R N L T V V N Y S I N					
1413	1422	1431	1440	1449	1458
AGA CTC ATG AAG TGG ATC ATG TTC CCA GTC GGC TAT GGC GTT CCC GCT GTG ACT					
R L M K W I M F P V G Y G V P A V T					
1467	1476	1485	1494	1503	1512
GTG GCC ATT TCT GCA GCC TCC TGG CCT CAC CTT TAT GGA ACT GCT GAT CGA TGC					
V A I S A A A S W P H L Y G T A D R C					

FIGURE 1D

1521	TGG CTC CAC CTG GAC CAG GGA TTC ATG TGG AGT TTC CTT GGC CCA GTC TGT GCC W L H L L D Q G F M W S F L G P V C A	1530	1539	1548	1557	1566
1575	ATT TTC TCT GCG AAT TTA GTA TTG TTT ATC TTG GTC TTT TGG ATT TTG AAA AGA I F S A N L L V I L V F F W I L K R	1584	1593	1602	1611	1620
1629	AAA CTT TCC TCC CTC AAT AGT GAA GTG TCA ACC ATC CAG AAC ACA AGG ATG CTG K L S S L N S E V S T I Q N T R M L	1638	1647	1656	1665	1674
1683	GCT TTC AAA GCA ACA GCT CAG CTC TTC ATC CTG GGC TGC ACA TGG TGT CTG GGC A F K A A T A Q L F I L G C T W C L G	1692	1701	1710	1719	1728
1737	TTG CTA CAG GTG GGT CCA GCT GCC CAG GTC ATG GCC TAC CTC TTC ACC ATC ATC L L Q Q V G P A A Q V M A Y L F T I I	1746	1755	1764	1773	1782
1791	AAC AGC CTC CAA GGC TTC TTC ATC TTC TTG GTC TAC TGC CTC CTC AGC CAG CAG N S L Q Q G F F I F F L V Y C L L S Q Q	1800	1809	1818	1827	1836
1845	GTC CAG AAA CAA TAT CAA AAG TGG TTT AGA GAG ATC GTA AAA TCA AAA TCT GAG V Q K Q Q Y Q K K W F R E I V K S K S E	1854	1863	1872	1881	1890

FIGURE 1E

1899	1908	1917	1926	1935	1944
TCT GAG ACA TAC ACA CTT TCC AGC AAG ATG GGT CCT GAC TCA AAA CCC AGT GAG					
S E T Y T L S S K M G P D S K P S E					
1953	1962	1971	1980	1989	1998
GGG GAT GTT TTT CCA GGA CAA GTG AAG AGA AAA TAT TAA AAC TAG AAT ATT CAA					
G D V F P G Q V K R K Y					
2007	2016	2025	2034	2043	2052
CTC CAT ATG GAA AAT CAT ATC CAT GGA TCT CTT TGG CAT TAT GAA GAA TGA AGC					
2061	2070	2079	2088	2097	2106
TAA GGA AAA GGG AAT TCA TTA AAC ATA TCA TCC TTG GAG AGG AAG TAA TCA ACC					
2115	2124	2133	2142	2151	2160
TTT ACT TCC CAA ACT GTT TGT TCT CCA CAA TAG GCT CTC AAC AAA TGT GTG GTA					
2169	2178	2187	2196	2205	2214
AAT TGC ATT TCT CTT CAC TAT GGT GTA TTC AGT CAA TGC TTG TCC CTG GAA ACC					
2223	2232	2241	2250	2259	2268
CAA AGC ATG ACC ACT GCA AAT ATT TCC TTG ACT TTT TGT AAA TGA AGA GGT CCT					
2277	2286	2295	2304	2313	2322
TTT CCT CAA GTT CTT AGT CCC ACT CAT CCT AAA CTT GCT CTT TTT TTA AGA CAG					
2331	2340	2349	2358	2367	2376
AGT TTC ACT CTG TCA CCC AGG CTG GAG TGT AGT GGC ATG ATC GTA GCT CAC TGC					

FIGURE 1F

2385	2394	2403	2412	2421	2430
AGC CTC AAA	CTC CAG AGC	TCA ACT GGT	TCT CCA GCC	TCA GCT TCC	CAA AGT GCT
2439	2448	2457	2466	2475	2484
GGG ATT ACA	GGC ATG AGC	CAC TGC ACC	TGG CCA TAA	ACT TGC TCT	TTA AAC TCA
2493	2502	2511	2520	2529	2538
CTC ATT CCC	TCA AAC CAT	CAG CTT CCT	ACT GGC TTT	ACT TCC TTG	CTA GAT ACA
2547	2556	2565	2574	2583	2592
GGC TAA TTT	TTT TTT TTT	TTT TTT TTT	TTT GAG ATG	GAG TTT CGC	TCT TGT
2601	2610	2619	2628	2637	2646
TGC CCA GGC	TGG AGT GCA	ACG GCG TGA	GTG CAA CCT	CTG CCT CCC	GGG TTC AAG
2655	2664	2673	2682	2691	2700
CGA TTC TTC	TGC CTC AGC	CTC CCA AGT	AGC TGG CGT	TAC AGG TAT	GGA CCA CCA
2709	2718	2727	2736	2745	2754
TGT CCG GCT	AAT TTT GTA	TTT TTA GTA	GAG ACA GGC	TTT CTC CAT	GTT GGT CAG
2763	2772	2781	2790	2799	2808
GCT GGT CTC	GAA CTC CCA	GCC TCA GGT	GAT CCA CCT	GAC TTG GCC	TCC CAA GAG
2817	2826	2835	2844	2853	2862
TGC TGG GAT	TAC AGG CAT	GAG CCA CCG	TGC CCA GCC	CAG GCT AAC	TTA TTT TCT

FIGURE 1G

2871 2880 2889 2898 2907 2916  
 TCT GAG ACT GAG TCT CAC TAC TGT CAC CCA GGC TGG AGT GCA GTG GTG AGA TCT  
  
 2925 2934 2943 2952 2961 2970  
 AGG CTC ACT GCA ACC TCT ACC TCC TGG GTT CAA GCA ATT CTC CTG CCT TAG CCT  
  
 2979 2988 2997 3006 3015 3024  
 CCC GAT AGC TGG GAC TAC AAG CAC ATG CCG CCA TGC CCA GCT AAT TTT GTA TTT  
  
 3033 3042 3051 3060 3069 3078  
 TTA GTG GAG ACA AGG TTT CAC CAT GTT GGC CAG GCT GAT CTC AAA CTC CTG ACC  
  
 3087 3096 3105 3114 3123 3132  
 TCA AGC AGC GAT CCA CCT GCC GGG GCC TCC CAA AGT GCT GGG ATT ACA GAC ACA  
  
 3141 3150 3159 3168 3177 3186  
 AGC CAT CGC GCC TGA TGA GAG ATT TTA AGT GTT CTC ACC ACA AAA AAA AAG AAA  
  
 3195 3204 3213 3222 3231 3240  
 AAA AAG TTA TAT GAG GTA ATC GTA TAT TAA TTA GCT TGA CTT AGT CAT TCC ACG  
  
 3249 3258 3267 3276 3285 3294  
 ATG TAG ATA TAT TTC AAA ACA TCC TGT TGT ACA TGA TAA ATA TAT ATA TTT TNG  
  
 3303 3312 3321 3330 3339 3348  
 TCT ATA TAA AAC AAA TAA ATA AAT AAA TGT TTA AAG TGT AAA AAA AAA AAA AAA

AG 3'

FIGURE 1H



1	M	Q	G	-	-	P	L	L	P	G	L	C	F	L	L	S	L	F	G	A	V	T	Q	K	T	S	-	429905			
1	M	R	G	F	N	L	L	L	F	W	G	C	C	V	M	H	S	W	E	G	H	I	R	P	T	R	K	P	N	T	GI 784994
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GI 2935597	
28	-	-	-	-	-	C	A	K	-	-	-	C	P	P	N	A	S	C	-	-	V	N	N	T	H	C	T	C	N	H	429905
31	K	G	N	N	C	R	D	S	T	L	C	P	A	Y	A	T	C	T	N	T	V	D	S	Y	C	T	C	K	Q	GI 784994	
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GI 2935597	
48	G	Y	T	S	G	S	G	Q	K	L	F	T	F	P	L	E	T	C	N	D	I	N	E	C	T	P	P	-	-	-	429905
61	G	F	L	S	S	N	G	Q	N	H	F	K	D	P	G	V	R	C	K	D	I	D	E	C	S	Q	S	P	Q	P	GI 784994
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GI 2935597	
75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Y	S	V	Y	C	-	-	G	F	-	-	-	-	-	-	-	429905
91	C	G	P	N	S	S	C	K	N	L	S	G	R	Y	K	C	S	C	L	D	G	F	S	S	P	T	G	N	D	W	GI 784994
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GI 2935597	
82	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	429905
121	V	P	G	K	P	G	N	F	S	C	T	D	I	N	E	C	L	T	S	R	V	C	P	E	H	S	D	C	V	N	GI 784994
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GI 2935597	
88	V	E	G	S	F	Y	C	Q	C	V	P	G	Y	R	L	H	S	G	N	E	Q	F	S	N	-	-	-	-	-	-	429905
151	S	M	G	S	Y	S	C	S	C	Q	V	G	F	I	S	R	N	S	T	C	E	D	V	N	E	C	A	D	P	R	GI 784994
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	GI 2935597	

FIGURE 2A

112	- - - - -	A C P E H A T C N N T V G N Y S C F C N P G F E S S G H L	- - - - -	429905
181	- - - - -	- - - - -	- - - - -	GI 784994
1	- - - - -	- - - - -	- - - - -	GI 2935597
112	- - - - -	S C Q G L K A S C E D I D E C T E M C P I N S T C T N T P G	- - - - -	429905
211	- - - - -	- - - - -	- - - - -	GI 784994
1	- - - - -	- - - - -	- - - - -	GI 2935597
112	- - - - -	S Y F C T C H P G F A P S S G Q L N F T D Q G V E C R D I D	- - - - -	429905
241	- - - - -	- - - - -	- - - - -	GI 784994
1	- - - - -	- - - - -	- - - - -	GI 2935597
112	- - - - -	E C R Q D P S T C G P N S I C T N A L G S Y S C G C I V G F	- - - - -	429905
271	- - - - -	- - - - -	- - - - -	GI 784994
1	- - - - -	- - - - -	- - - - -	GI 2935597
112	- - - - -	H P N P E G S Q K D G N F S C Q R V L F K C K E D V I P D N	- - - - -	429905
301	- - - - -	- - - - -	- - - - -	GI 784994
1	- - - - -	- - - - -	- - - - -	GI 2935597
112	S N E N T C Q D T T S S K T T	- - - - -	- - - - -	429905
331	K Q I Q Q C Q E G T A V K P A Y V S F C A Q I N N I F S V L	- - - - -	- - - - -	GI 784994
1	- - - - -	- - - - -	- - - - -	GI 2935597

FIGURE 2B



295	M	T	P	S	T	K	K	V	F	C	V	Y	W	K	S	T	G	Q	G	S	Q	-	W	S	R	D	G	C	F	L	429905			
541	P	K	Q	K	F	E	R	P	I	C	V	S	W	S	T	D	V	K	G	G	R	-	W	T	S	F	G	C	V	I	GI 784994			
1	-	-	-	-	-	-	-	-	-	K	V	L	C	V	F	W	E	H	G	Q	N	G	C	G	H	W	A	T	T	G	C	S	T	GI 2935597
324	I	H	V	N	K	S	H	T	M	C	N	C	S	H	L	S	S	F	A	V	L	M	A	L	T	S	Q	E	E	D	429905			
570	L	E	A	S	E	T	Y	T	I	C	S	C	N	Q	M	A	N	L	A	V	I	M	A	S	G	E	L	T	M	D	GI 784994			
25	I	G	T	R	D	T	S	T	I	C	R	C	T	H	L	S	S	F	A	V	L	M	A	H	Y	D	V	Q	E	D	GI 2935597			
354	P	V	L	T	V	I	T	Y	V	G	L	S	V	S	L	L	C	L	L	A	A	L	T	F	L	L	C	K	A	429905				
600	F	S	L	Y	I	I	S	H	V	G	I	I	I	S	L	V	C	L	V	L	A	I	A	T	F	L	L	C	R	S	GI 784994			
55	P	V	L	T	V	I	T	Y	M	G	L	S	V	S	L	L	C	L	L	A	A	L	T	F	L	L	C	K	A	GI 2935597				
384	I	Q	N	T	S	T	S	L	H	L	Q	L	S	L	C	L	F	L	A	H	L	L	F	L	V	G	I	D	R	T	429905			
630	I	R	N	H	N	T	Y	L	H	L	H	L	C	V	C	L	L	A	K	T	L	F	L	A	G	I	H	K	T	GI 784994				
85	I	Q	N	T	S	T	S	L	H	L	Q	L	S	L	C	L	F	L	A	H	L	L	F	L	V	A	I	D	Q	T	GI 2935597			
414	E	P	K	V	L	C	S	I	I	A	G	A	L	H	Y	L	Y	L	A	A	F	T	W	M	L	L	E	G	V	H	429905			
660	D	N	K	T	G	C	A	I	I	A	G	F	L	H	Y	L	F	L	A	C	F	F	W	M	L	V	E	A	V	I	GI 784994			
115	G	H	K	V	L	C	S	I	I	A	G	T	L	H	Y	L	Y	L	A	T	F	T	W	M	L	L	E	A	L	Y	GI 2935597			
444	L	F	L	T	A	R	N	L	T	V	V	N	Y	S	S	I	N	R	L	M	K	W	I	M	F	P	V	G	Y	G	429905			
690	L	F	L	M	V	R	N	L	K	V	V	N	Y	F	S	S	R	N	I	K	M	L	H	I	C	A	F	G	Y	G	GI 784994			
145	L	F	L	T	A	R	N	L	T	V	V	N	Y	S	S	I	N	R	F	M	K	K	L	M	F	P	V	G	Y	G	GI 2935597			

FIGURE 2D

474	V	P	A	V	T	V	A	I	S	A	A	S	W	P	H	L	Y	G	T	A	D	R	C	W	L	H	L	D	Q	G	429905
720	L	P	M	L	V	V	I	S	A	S	V	Q	P	Q	G	Y	G	M	H	N	R	C	W	L	N	T	E	T	G	GI 784994	
175	V	P	A	V	T	V	A	I	S	A	A	S	R	P	H	L	Y	G	T	P	S	R	C	W	L	Q	P	E	K	G	GI 2935597
504	F	M	W	S	F	L	G	P	V	C	A	I	F	S	A	N	L	V	L	F	I	L	V	F	W	I	L	K	R	K	429905
750	F	I	W	S	F	L	G	P	V	C	T	V	I	V	I	N	S	L	L	T	W	T	L	W	I	L	R	Q	R	GI 784994	
205	F	I	W	G	F	L	G	P	V	C	A	I	F	S	V	N	L	V	L	F	L	V	T	L	W	I	L	K	N	R	GI 2935597
534	L	S	S	L	N	S	E	V	S	T	I	Q	N	T	R	M	L	A	F	K	A	T	A	Q	L	F	I	L	G	C	429905
780	L	S	S	V	N	A	E	V	S	T	L	K	D	T	R	L	L	T	F	K	A	F	A	Q	L	F	I	L	G	C	GI 784994
235	L	S	S	L	N	S	E	V	S	T	L	R	N	T	R	M	L	A	F	K	A	T	A	Q	L	F	I	L	G	C	GI 2935597
564	T	W	C	L	G	L	Q	V	G	P	A	A	Q	V	M	A	Y	L	F	T	I	I	N	S	L	Q	G	F	F	429905	
810	S	W	V	L	G	I	F	Q	I	G	P	V	A	G	V	M	A	Y	L	F	T	I	I	N	S	L	Q	G	A	F	GI 784994
265	T	W	C	L	G	I	L	Q	V	G	P	A	A	R	V	M	A	Y	L	F	T	I	I	N	S	L	Q	G	V	F	GI 2935597
594	I	F	L	V	Y	C	L	L	S	Q	Q	V	Q	K	Q	Y	Q	K	W	F	R	E	I	V	K	S	K	S	E	S	429905
840	I	F	L	I	H	C	L	L	N	G	Q	V	R	E	E	Y	K	R	W	I	T	G	K	T	K	P	S	S	Q	S	GI 784994
295	I	F	L	V	Y	C	L	L	S	Q	Q	V	R	E	Q	Y	G	K	W	S	K	G	I	R	K	L	K	T	E	S	GI 2935597
624	E	T	Y	-	T	L	S	S	K	M	G	P	D	S	K	P	S	E	G	D	V	F	P	G	Q	V	K	R	K	Y	429905
870	Q	T	S	R	I	L	L	S	S	M	P	S	A	S	K	T	G													GI 784994	
325	E	M	H	T	L	S	S	A	K	A	D	T	S	K	P	S	T	V	N											GI 2935597	

FIGURE 2E

Figure 3

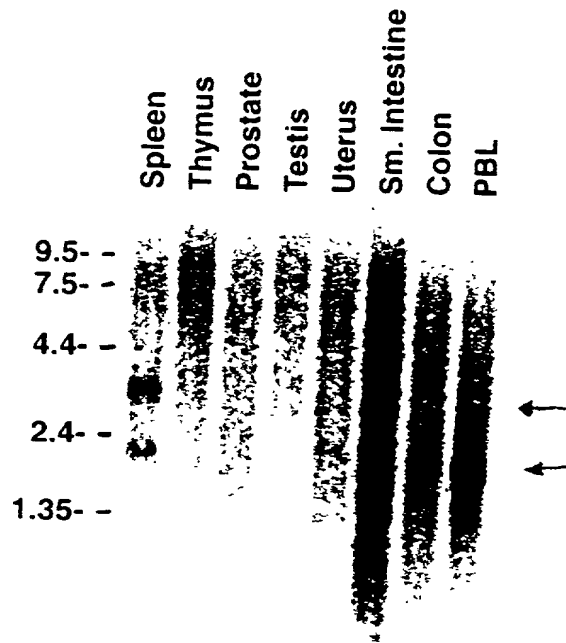


Figure 4

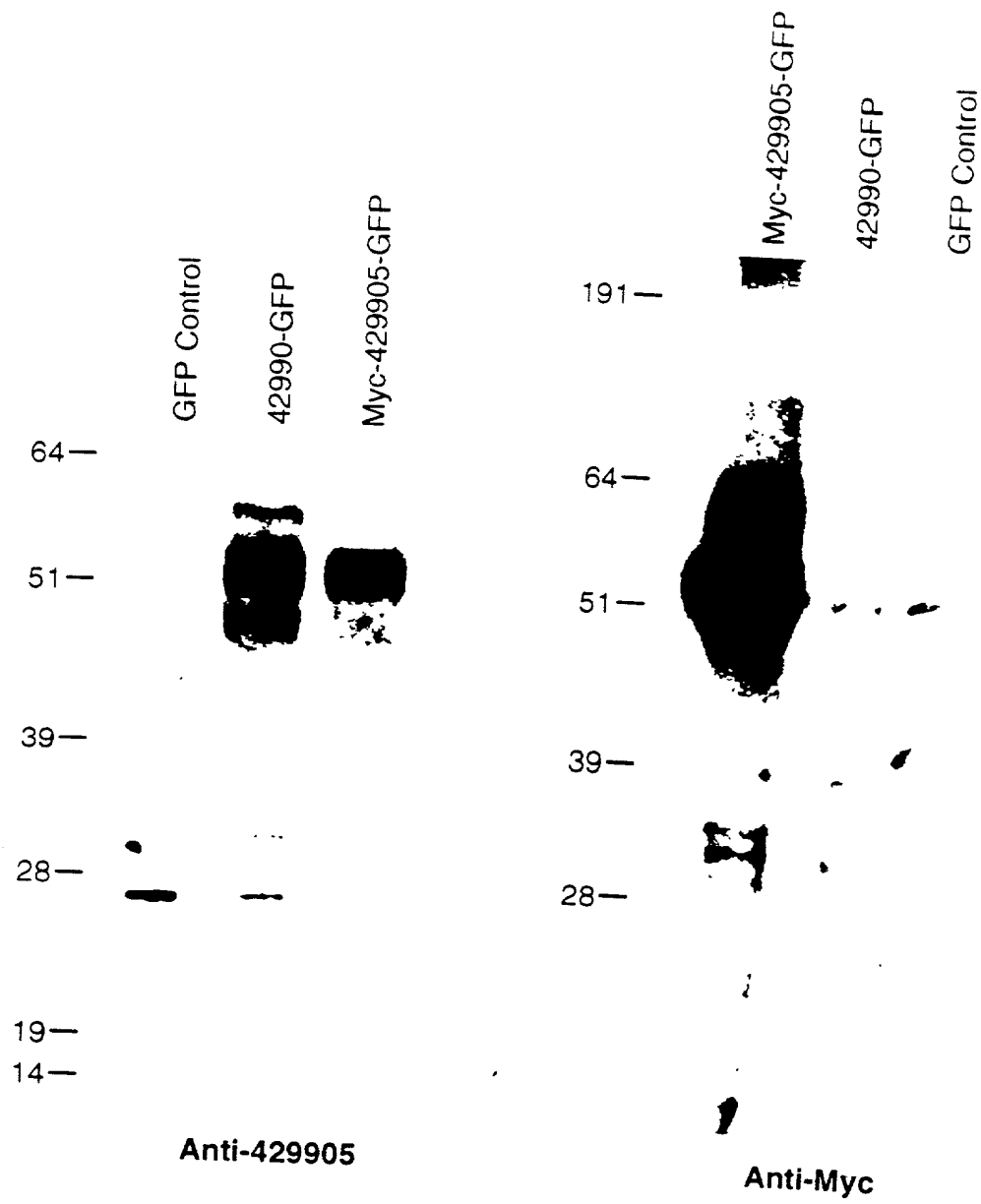


Figure 5

